

CLAIMS

1. A control device for use in a waste-air fume extraction device comprising a fan (3) and arranged in a room (5), comprising a pressure difference detection device (10) for detecting the pressure difference (P_d) between the inside pressure (P_i) in the room (5) and the outside pressure (P_a) in the area (9) outside the room (5) and comprising a control device (11) for controlling the air conveying capacity of the fume extraction device depending on the detected pressure difference (P_d).
2. A fume extraction device comprising a fan (3) for extracting the fume-laden air from a room (5) and conveying the extracted air to an area (9) outside the room (5), characterised by a pressure difference detection device (10) for detecting the pressure difference (P_d) between the inside pressure (P_i) in the room (5) and the outside pressure (P_a) in the area (9) outside the room (5) and comprising a control device (11) for controlling the air conveying capacity of the fan (3) depending on the detected pressure difference (P_d).
3. The device according to any one of claims 1 or 2, characterised in that the pressure difference detection device (10) has an inside pressure sensor and an outside pressure sensor and a comparator device for comparing the detected inside pressure and the detected outside pressure.
4. The device according to any one of claims 1 or 2, characterised in that the pressure difference

detection device (10) is connected to the room (5) via a first sensor line (14) and is connected to the area (9) outside the room (5) by means of a second sensor line (15).

5. The device according to any one of claims 1 to 4, characterised in that the pressure difference detection device (10) is preferably arranged in the room (5) at the fume extraction device or in the area (9) outside the room (5) or partly in the room (5) and partly in the area (9) outside the room (5).
6. The device according to any one of claims 1 to 5, characterised in that the pressure difference detection device (10) comprises a membrane which is connected on one side by means of a first sensor line (14) to the room (5) and is connected on the other side by means of a second sensor line (15) to the area (9) outside the room (5).
7. The device according to any one of claims 1 to 6, characterised in that the first and/or the second sensor line (14, 15) is a hose line.
8. The device according to claim 6 or claim 7, characterised in that a duct (7) is provided for guiding the fume-laden air into the areas (9) outside the room (5) and that the second sensor line (15) is laid along or in the duct (7) in the area (9) outside the room (5).
9. The device according to any one of claims 1 to 8, characterised in that the control device (11) controls the fan (3) such that, preferably in a control loop, the inside pressure (P_i) with

respect to the outside pressure (P_a) does not fall below a pre-determined pressure difference threshold (P_d) of preferably 4 Pascal or that the fan is switched off if the inside pressure (P_i) with respect to the outside pressure (P_a) falls below a pre-determined pressure difference threshold (P_d) of preferably 4 Pascal and that the fan (3) is switched on if the inside pressure (P_i) with respect to the outside pressure (P_a) increases above the pre-determined pressure difference threshold (P_d).

10. The device according to any one of claims 1 to 9, characterised in that a warning signal issuing device (12) is provided which issues a warning signal if the inside pressure falls below a pressure difference threshold (P_d) of preferably 4 Pascal.
11. The device according to claim 10, characterised in that the output warning signal is an audible warning signal preferably in the form of an interrupted warning tone and/or a visual signal preferably in the form of a flashing red light and/or in the form of a display "open window" or "ventilate room".
12. A method for operating a fume extraction device comprising a fan (3) for extracting the fume-laden air from a room (5) and conveying the extracted air to an area (9) outside the room (5), characterised by detecting the pressure difference (P_d) between inside pressure (P_i) in the room (5) and outside pressure (P_a) in the area (9) outside the room (5) and controlling the air conveying

capacity of the fan (3) depending on the detected pressure difference (P_d).

13. The method according to claim 12, characterised by controlling the conveying capacity of the fan (3) such that the inside pressure (P_i) with respect to the outside pressure (P_a) does not fall below a pre-determined pressure difference threshold (P_d) of preferably 4 Pascal.
14. The method according to claim 13, characterised by switching off the fan (3) if the inside pressure (P_i) with respect to the outside pressure (P_a) falls below a pre-determined pressure difference threshold (P_d) of preferably 4 Pascal and switching off the fan (3) if the inside pressure (P_i) with respect to the outside pressure (P_a) is above the pre-determined pressure difference threshold (P_d).
15. The method according to any one of claims 12 to 13, characterised by issuing a warning signal if the inside pressure (P_i) with respect to the outside pressure (P_a) falls below a pre-determined pressure difference threshold (P_d) of preferably 4 Pascal and switching off the warning signal if the inside pressure (P_i) with respect to the outside pressure (P_a) increases above the pre-determined pressure difference threshold (P_d).